

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2004/007864

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01M4/04 H01M4/88

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 423 446 B1 (MIYANOWAKI SHIN ET AL) 23 July 2002 (2002-07-23) column 4, line 43 - line 55 column 9, line 17 - line 36 column 14, line 18 - line 20 column 26, line 43 - line 52 figure 3 claim 1	1-4,6-15
X	US 6 234 225 B1 (TANAKA MITSUTOSHI ET AL) 22 May 2001 (2001-05-22) column 10, last paragraph column 19; examples C-1; table 5 figure 2A -/-	1-4,6-15

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

19 November 2004

Date of mailing of the international search report

02.12.04

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/80338 A (SCHERSON DANIEL A.; UNIV CASE WESTERN RESERVE (US)) 25 October 2001 (2001-10-25) the whole document	1-6, 8-17, 19, 21-24, 26, 28, 29
P, X	WO 2004/036678 A (CANON KK; ERITATE SHINJI (JP); YAMADA MASAYUKI (JP); KOBAYASHI MOTOKA) 29 April 2004 (2004-04-29) claims; examples	1-6, 8-10, 16, 17, 19-27, 29
P, X	US 2004/038808 A1 (BHATIA RIMPLE ET AL) 26 February 2004 (2004-02-26) the whole document	1-6, 8-10, 16, 17, 19-27, 29

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15

Claims 1-8 relate to an electrode comprising a collector and an electrode layer which is disposed on the collector and contains an active material, wherein an average thickness of the collector and the electrode layer ranges from 5-30 μ m and a maximum thickness for the collector and the electrode layer is not more than 105 % of a minimum thickness of the collector and the electrode layer.

Claims 9-15 relate to a battery comprising an electrode of claim 1.

2. claims: 16-29

Claims 16-26 relate to a method of manufacturing an electrode comprising forming an electrode layer by adopting an inkjet method in which a liquid containing an active material is ejected in the form of many particles to adhere the particles to the base material.

Claims 27-29 relate to a method of manufacturing a battery comprising a negative and a positive electrode of claim 16.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6423446	B1	23-07-2002 JP 2000208134 A	28-07-2000
US 6234225	B1	22-05-2001 JP 10144303 A	29-05-1998
		JP 10079245 A	24-03-1998
		US 6054010 A	25-04-2000
		US 5989747 A	23-11-1999
WO 0180338	A	25-10-2001 AU 5352401 A	30-10-2001
		WO 0180338 A1	25-10-2001
WO 2004036678	A	29-04-2004 WO 2004036678 A1	29-04-2004
		JP 2004158446 A	03-06-2004
US 2004038808	A1	26-02-2004 US 2003148024 A1	07-08-2003
		US 2002107140 A1	08-08-2002
		US 6753108 B1	22-06-2004
		US 6660680 B1	09-12-2003
		US 6103393 A	15-08-2000
		WO 2004095603 A2	04-11-2004
		AU 6976501 A	17-12-2001
		CA 2412426 A1	13-12-2001
		EP 1309396 A2	14-05-2003
		JP 2004507341 T	11-03-2004
		WO 0193999 A2	13-12-2001
		US 2003130114 A1	10-07-2003
		US 2003064265 A1	03-04-2003
		US 2003118884 A1	26-06-2003
		US 2003198849 A1	23-10-2003
		AU 4772501 A	03-10-2001
		CA 2402552 A1	27-09-2001
		EP 1268054 A1	02-01-2003
		JP 2003527735 T	16-09-2003
		WO 0170392 A1	27-09-2001
		US 2003054218 A1	20-03-2003
		US 2003049517 A1	13-03-2003
		US 2003181321 A1	25-09-2003
		US 2003013606 A1	16-01-2003
		US 2003144134 A1	31-07-2003
		US 2004171480 A1	02-09-2004
		AU 2020000 A	03-04-2000
		CA 2345463 A1	23-03-2000
		EP 1358124 A2	05-11-2003
		JP 2003528419 T	24-09-2003
		WO 0015547 A2	23-03-2000
		US 2002189400 A1	19-12-2002
		US 2002192540 A1	19-12-2002
		US 2002192368 A1	19-12-2002
		US 2003006517 A1	09-01-2003
		US 6780350 B1	24-08-2004
		CA 2461338 A1	17-04-2003
		EP 1448725 A2	25-08-2004
		WO 03032084 A2	17-04-2003
		US 2003175411 A1	18-09-2003
		US 2003180451 A1	25-09-2003